

# **In the United States Patent & Trademark Office**

Docket No. FRAC-US-C1

Applicants: M. Seul et al.

Serial No.: 371 of PCT/US02/08706

Parent Filed: 3/21/2002

Parent Title: Analysis and Fractionation of Particles Near Surfaces

## **Preliminary Amendment**

Commissioner for Patents

PO BOX 1450

Alexandria VA 22313-1450

Dear Sir:

Please cancel all claims in the application and substitute the following new claims

1 to 27.

### **Claims**

1. A method of fractionation of a mixture of particles which are suspended in an electrolyte solution between a first electrode positioned in the first plane and the surface of a second planar electrode positioned in a second plane different from the first plane, and wherein the surface or the interior of the second electrode either is or can be patterned to modify the electric field extending from the surface into the electrolyte solution, and wherein the particles comprise at least two types of particles distinguished by their respective relaxation frequencies; and

generating an electric field between the first and the second electrodes by applying an AC voltage between the two electrodes, said electric field having a frequency that is less than or equal to the relaxation frequency of at least one of